

Application Serial No. 10/587,058
Attorney Docket No. F-891
Reply Dated: March 26, 2009
Reply to Office Action of January 26, 2009

REMARKS

This is in response to the Office Action dated January 26, 2009.

Denial of Priority to PCT/EP2005/050235

The intended national stage entry (371) of PCT/EP2005/050235 stands denied as failing to include a declaration of the intention to file as a national stage application. The Examiner treated the present application as an application under 35 U.S.C. § 111(a) claiming priority under 35 U.S.C. § 119 to PCT/EP2005/050235. Examiner then asserted that priority under 119 could not be based upon the applications filed in the European Patent Office (EPO) on July 21, 2006; January 30, 2004; and March 12, 2004. The Examiner's reasoning is that a claim for priority under 35 U.S.C. § 119(a)-(d) cannot be base on the aforementioned EPO applications, since the United States application was filed more than twelve months thereafter.

Applicant considerably reminds Examiner that under MPEP § 1893.03(a), an examiner may treat an application as an application under § 111(a) if there is no indication in the originally filed application papers, or other evidence, that processing as a national stage (§ 371) is desired. In the current application, there are instances where Applicant has indicated the intention to file the application as a § 371 national stage.

For instance, the Express Mail Certificate of Mailing received by the USPTO on July 21, 2006 expressly referred to the USPTO as the "United States Designated/Elected Office (DO/EO/US)." Such a designation is used when referring to the office under a national stage application and is used in the title for a form PTO-1390. Form PTO-1390

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is limited to transmittals concerning a 371 application. Thus, Applicant's reference to the "Transmittal Letter to the United States Designated/Elected Office (DO/EO/US)" is an indication that the application was intended as a 371 national stage.

Another indication of the intent to file as a 371 is in the response to the Notice to File Missing Parts. In response to this notice, Applicant submitted a "response to the Notification of Missing Requirement Under 35 U.S.C. 371 CFR, in the United States Designated/Elected Office (DO/EO/US)," dated October 14, 2008. Clearly, Applicant here has indicated that a national stage filing was intended by referring to the notice as a notice under 371. Also, Applicant used the 371 national stage language of "the United States Designated/Elected Office (DO/EO/US)" in referring to the USPTO. Applicant's references to section 371 and the "(DO/EO/US)" clearly indicate that Applicant intended to file the application as a 371 national stage.

Also under MPEP § 1893.03(a), "if the applicant files a U.S. national application and clearly identifies in the accompanying oath or declaration the specification to which it is directed by referring to a particular international application by PCT Application Number and International Filing Date and that he or she is executing the declaration as, and seeking a U.S. Patent as, the inventor of the invention described in the identified international application, then the application will be accepted as submitted under 35 U.S.C. 371."

In the instant application, Applicant included an Inventor's Declaration signed by all four inventors, which states, "I believe I am an original, first, and joint inventor of the subject matter which is described and claimed and for which a patent is sought on the

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invention entitled Activating Supports for Metallocene Catalysis, the specification of which was filed July 21, 2006 and amended by a Preliminary Amendment filed July 21, 2006, as a national phase application of International Application No. PCT/EP2005/050235, with an international filing date of January 20, 2005, and having been assigned serial no. 10/587,058.” Applicant has met the requirements set out in MPEP § 1893.03(a), by clearly referring to a PCT application number (PCT/EP2005/050235) and international filing date (January 20, 2005) and clearly executing the declaration as the inventor of the subject matter in the specification and stating that the subject matter is present in the national phase application.

In light of the foregoing evidence, Applicant has met the burden of proof set out in MPEP § 1893.03(a). The current application, therefore, should be treated as 371 national stage application, having the appropriately claimed priority date. Applicant respectfully requests that the Examiner regard the present application as a 371 national stage application of PCT/EP2005/050235.

Rejections under 103(a) over *Best* in view of *Saudemont et al*

Claims 23-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Best* in view of *Saudemont et al*.

With regard to Claim 23, the Examiner states that the *Best* reference teaches a catalyst support for polymerization of olefins comprising porous silica functionalized by contact with diethyl aluminum fluoride. The Examiner acknowledges that *Best* does not

teach or disclose the heating steps for pyrolysis or the step of oxidation of the functionalized silica particles.

To cure the deficiencies of *Best*, Examiner included the *Saudemont et al* reference. The Examiner asserts in the office action that *Saudemont et al* teaches that the oxidation of functionalized silica particles at 200-600 degrees Celsius increases surface acidity and that such oxidation should be preceded by pyrolysis in an inert atmosphere.

The recent Supreme Court decision, *KSR International Co. v. Teleflex, Inc., et al*, 550 U.S. 398 (2007), discussed the case of *United States V. Adams*, 383 U.S. 39 (1966), stating that in that case, “[t]he Court relied upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” (KSR Opinion at p.12). Thus, if such teachings are present, there may be no reason or motivation to make the asserted combination/modification.

According to the MPEP, “A prima facie case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention.” See MPEP § 2144.05 III., citing *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997). Also the MPEP states, “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

In the instant case, *Saudemont et al* teaches that “[t]he direct use of aluminium (*sic*) and/or magnesium fluorides presents difficulties which are barely surmountable in

terms of forming a support having suitable particle-size and porosity properties.” The claimed invention, in Claim 23, includes the step of contacting the porous mineral oxide particles with a fluorinated functionalizing agent, which encompasses aluminum fluoride (see Applicant’s Specification, page 7). Thus, the teaching of *Saudemont et al* teaches away from the claimed invention, and therefore, a *prima facie* case of obviousness has not been established for Claim 23.

Furthermore, according to MPEP § 2145 X. (D)(3), proceeding contrary to accepted wisdom is evidence of nonobviousness. “Known disadvantages in old devices which would naturally discourage search for new inventions may be taken into account in determining obviousness.” *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966). As stated above, Claim 23 includes the step of contacting the porous mineral oxide particles with a fluorinated functionalizing agent, which includes aluminum fluoride while *Saudemont* teaches that the direct use of aluminum fluoride “presents difficulties which are barely surmountable in terms of forming a support...”. Therefore, the present claimed invention is nonobvious over the cited prior art by proceeding contrary to the accepted wisdom, depicted in *Saudemont*, that the direct use of aluminum fluorides is undesirable.

With regard to Claim 33, Examiner asserted that while neither *Best* nor *Saudemont* teaches the use of a combination of fluoroorganoaluminum with an alkylated and/or fluorinated group II metal to activate the catalyst support, both *Best* and *Saudemont* recognize that magnesium is also useful for activating the support structures.

However, MPEP § 2144.06 states that, "[i]n order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents." While Examiner has noted that *Saudemont* gives an example of magnesium as a functional agent, *Saudemont* does not teach that magnesium is an equivalent agent for aluminum. In this regard, Examiner has failed to indicate that the prior art has recognized the equivalency of magnesium and aluminum agents. Thus, a prima facie case of obviousness has not been established for Claim 33.

With regard to Claim 36, neither *Best* nor *Saudemont* disclose an activated fluorinated support comprising aluminum atoms having fluorine atoms, which are directly linked to the aluminum atoms. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Claim 36, a product by process claim, refers to the process of Claim 32. However, per *In re Thorpe*, the patentability is based on the activated fluorinated support comprising aluminum atoms having fluorine atoms, which are directly linked to the aluminum atoms. Neither reference teaches or discloses this product. Therefore, a prima facie case of obviousness does not exist for Claim 36.

With regard to Claim 37, Examiner admits that *Best* does not teach a metallocene catalyst having the support of *Best*. The Examiner uses the *Saudemont* reference to

provide a teaching of the use of metallocene catalysts with such a support. The Examiner stated that it would have been obvious to replace the vanadium containing catalysts of *Best* with a metallocene catalyst of *Saudemont* with a reasonable expectation of success.

According to the MPEP and past and recent case law, to establish a prima facie case of obviousness, it is and still remains necessary for the Office Action to identify the reason why a person having ordinary skill in the art would have combined the elements in the prior art references in the manner claimed. For instance, the opinion in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007) requires that an Examiner provide "some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness." (*KSR* opinion at p. 14).

MPEP § 2143 B. states that in rejecting a claim by using the rationale of combining prior art elements according to known methods to yield predictable results, both a finding that one of ordinary skill in the art could have substituted one known element for another and that the results of the substitution would have been predictable, are required.

In the instant case, the Examiner's reasoning for combining the references of *Best* and *Saudemont* was that the catalyst of *Best* could be substituted for the catalyst of *Saudemont*. Examiner provided no other reasoning for the substitution. This reasoning falls short of the requirements set out in MPEP 2143 B. in that it fails to include a finding that one of ordinary skill in the art could have substituted one known element for another and fails to include a finding that the results of the submission would have been predictable. Thus, Examiner has failed to establish a prima facie case of obviousness for Claim 37.

In addition, the Examiner states that *Saudemont* teaches the use of the particles as metallocene catalyst supports. However, Claim 37 contains a limitation of providing an activated fluorinated support as defined by Claim 36. As discussed in the response above, *Best* and *Saudemont* do not teach or disclose this activated fluorinated support (see Response, above). Therefore, the Examiner has failed to establish a prima facie case of obviousness of Claim 37.

With regard to Claim 38, the Examiner has provided no evidence in the rejection that either *Best* or *Saudemont* teach where the metallocene comprises at least one cyclopentadienyl group coordinated with a transition metal from group 4 of the Periodic Table of Elements.

With regard to Claims 41 and 42, Examiner states that *Best* and *Saudemont* teach the mixing of a support with the catalyst in hexane and heptane, respectively. However, Claim 41 contains a limitation of providing an activated fluorinated support as defined by Claim 36. As discussed in the response above, *Best* and *Saudemont* do not teach or disclose this activated fluorinated support (see Response, above). Therefore, the Examiner has failed to establish a prima facie case of obviousness of Claims 41 and 42.

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With regard to Claim 23, the Examiner states that the *Saudemont et al* reference teaches a metallocene catalyst support for polymerization of olefins functionalized with

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fluorinated aluminum produced by pyrolyzing and oxidizing. The Examiner acknowledges that *Saudemont et al* does not teach the use of a fluorinated functionalizing agent.

To cure the deficiencies of *Suademont et al*, Examiner included the *Best* reference. The Examiner asserts in the office action that *Best* teaches a method of producing catalyst supports for the polymerization of olefins in which porous oxide particles meeting the requirements of *Saudemont et al* are functionalized with diethyl aluminum fluoride.

The recent Supreme Court decision, *KSR International Co. v. Teleflex, Inc., et al*, 550 U.S. 398 (2007), discussed the case of *United States V. Adams*, 383 U.S. 39 (1966), stating that in that case, “[t]he Court relied upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” (*KSR* Opinion at p.12). Thus, if such teachings are present, there may be no reason or motivation to make the asserted combination/modification.

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In the instant case, *Saudemont et al* teaches that "[t]he direct use of aluminium (*sic*) and/or magnesium fluorides presents difficulties which are barely surmountable in terms of forming a support having suitable particle-size and porosity properties." The claimed invention, in Claim 23, includes the step of contacting the porous mineral oxide particles with a fluorinated functionalizing agent, which includes aluminum fluoride (see Applicant's Specification, page 7). Thus, the teaching of *Saudemont et al* teaches away from the claimed invention, and therefore, a *prima facie* case of obviousness has not been established for Claim 23.

Furthermore, according to MPEP § 2145 X. (D)(3), proceeding contrary to accepted wisdom is evidence of nonobviousness. "Known disadvantages in old devices which would naturally discourage search for new inventions may be taken into account in determining obviousness." *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966). As stated above, Claim 23' includes the step of contacting the porous mineral oxide particles with a fluorinated functionalizing agent, which includes aluminum fluoride while *Saudemont* teaches that the direct use of aluminum fluoride is undesirable. Therefore, the present claimed invention is nonobvious over the cited prior art by proceeding contrary to the accepted wisdom, depicted in *Saudemont*, that the direct use of aluminum fluorides is undesirable.

With regard to Claim 33, Examiner asserted that while neither *Saudemont* nor *Best* teaches the use of a combination of fluoroorganoaluminum with an alkylated and/or fluorinated group II metal to activate the catalyst support, both *Saudemont* and *Best* recognize that magnesium is also useful for activating the support structures.

However, MPEP § 2144.06 states that, "[i]n order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents." While Examiner has noted that *Saudemont* gives an example of magnesium as a functional agent, *Saudemont* does not teach that magnesium is an equivalent agent for aluminum. In this regard, Examiner has failed to indicate that the prior art has recognized the equivalency of magnesium and aluminum agents. Thus, a prima facie case of obviousness has not been established for Claim 33.

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providing an activated fluorinated support as defined by Claim 36. As discussed in the response above, *Best* and *Saudemont* do not teach or disclose this activated fluorinated support (see Response, above). Therefore, the Examiner has failed to establish a prima facie case of obviousness of Claim 37.

With regard to Claim 38, the Examiner has provided no evidence in the rejection that either *Best* or *Saudemont* teach where the metallocene comprises at least one cyclopentadienyl group coordinated with a transition metal from group 4 of the Periodic Table of Elements.

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Conclusion

Applicant believes that this submission provides a full and complete response to the Office Action January 26, 2009.

Applicant believes that this response is timely filed as it is filed within the three-month shortened statutory deadline set forth in the Office Action dated January 26, 2009, and that no extension of time fee is due.

Applicant further believes that for at least the reasons stated above, all pending claims 23-42 are patentable over the cited art, and respectfully solicits their immediate allowance at the Examiner's earliest convenience.

Respectfully submitted,

Date: Mar 25, 2009

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